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ABSTRACT

The planning and development phases of Tea Tree Gully College in South Australia and stage 1 of the design and construction of Joondalup Campus of North Metropolitan College in Western Australia were examined in two detailed case studies. Both are colleges of Technical and Further Education (TAFE). Strategic planning processes emerged as the most significant of the major issues identified from the case studies and subsequent interviews conducted throughout Australia. In most of Australia's states, strategic capital planning was found to refer to the planning associated with new buildings. Other planning termed "strategic" tended to take place within a framework in which the building program is already decided, which thus precludes consideration of "nonbuilding" options. Building planners and associated architects in all states appeared to be well aware of the need for flexible use of future buildings; however, internal layout of learning areas has received little attention to date and represents an area in which future research is needed. A strategic model was proposed that would provide for more effective use of capital funding. According to the model, each major development project would go through three phases: politicostrategic, problem definition, and project implementation. (A 40-item reading list is included.) (MN)

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ED 360 549

Strategic Planning for Open Learning

T W GOODE

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T W Goode

A study of capital investment and planning strategies for alternative educational delivery at Tea Tree Gully College of TAFE (SA) and Joondalup Campus (WA).

Adelaide 1993

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Contents

Executive Summary i

Part 1 The Project 1

Part 2 Case Study: Tea Tree Gully 5

- Description 5
- Issues arising 8
- Summary 15

Part 3 Case Study: Joondalup 17

- Description 17
- Issues arising 22
- Summary 31
- Appendix 32

Part 4 Major Issues 33

- Strategic planning 33
- Educational philosophy 38
- Technology 40
- Architecture 42
- Equipment 43
- Curriculum 44
- Staff development 45
- Finance 45
- Project management 47

Part 5 Conclusion 49

Reading List 50

Acknowledgments 55

Executive Summary

This paper is the result of a project commissioned by the National Centre for Vocational Education Research Ltd in July 1992.

The opening of Tea Tree Gully College in South Australia in February 1992 and that of Joondalup Campus of North Metropolitan College in Western Australia in July 1992 are major milestones in the adoption of alternative delivery (commonly called 'open learning') in vocational education. Both facilities represent major items of capital investment on the part of the Commonwealth and State governments. They also represented major departures from the requirements of traditional classroom facilities.

Alternative delivery (or open learning) methodologies fall into two broad groups. The first group uses communication technology to extend the walls of the classroom while the second focusses on changing the classroom process. There is a general convergence of these philosophies and it is suggested this will have a significant impact on vocational education.

Tea Tree Gully College in South Australia and the Joondalup Campus of North Metropolitan College in Western Australia are both examples of the second group, which seeks to improve the effectiveness of on-campus delivery by shifting the emphasis from a teacher-centred delivery process to a student-centred learning process; a significant shift in the roles of both the lecturer and the student.

The major change is to shift the information-giving component from the lecturer to the materials that can be accessed by the student at a time and place convenient to the student. The lecturer becomes a facilitator with the tasks of monitoring, encouraging, guiding and helping the individual student. Subject content experts make their contribution in two ways; either by their input to the design of the learning materials or as a resource from whom the student can seek advice as required.

The subject of this paper is the impact of such changes on the hitherto orderly processes of capital investment in TAFE.

Detailed case studies were prepared, examining the planning and development phase of Tea Tree Gully College in South Australia and Stage 1 of the Joondalup Campus of North Metropolitan College in Western Australia. These case studies comprise the major part of the report.

Several major issues were identified from the case studies and the subsequent interviews conducted around Australia.

Strategic planning processes emerged as the most significant issue affecting capital investment in vocational education.

In most States strategic capital planning refers to the planning associated with new buildings. Other so-called strategic planning tends to take place within a framework in which the building program is already decided. This often precludes consideration of 'non-building' options. If Technical and Further Education (TAFE) is to take full advantage of the capital invested each year then planning must take place in a truly strategic manner and investment in buildings must be relegated to its rightful place — that of one of a number of options available.

The report found that in all States the building planners and associated architects were well aware of the need for flexible use of future buildings. Some of the solutions already in use are described in the following chapters. The internal layout of learning areas has received little attention so far and represents an area requiring further research.

The co-ordination of Commonwealth and State funding procedures provides scope for a more effective use of the funds available. While the Commonwealth invests quite heavily in capital works, curriculum and staff development, it does so through separate organisations without a great degree of co-ordination. A mechanism is suggested that could lead to improvements in this area.

The report proposes a strategic planning model that would provide for a more effective utilisation of capital funding.

It is suggested that each major development project should go through three phases. Firstly, in the politico-strategic phase, a need or problem is identified, a priority allocated, and agreement reached that resources should be allocated to the problem. Secondly, in the problem-definition phase, a small task force is formed to examine the problem, define the parameters, then develop alternative solutions and broad estimates of cost. The task force must produce a recommended solution with viable alternatives. Thirdly, in the project implementation phase, a steering committee of major stakeholders is formed to keep the project aligned and resources allocated. Comprehensive planning is the first task as this ensures the co-ordination of all aspects and the scheduling of resource requirements.

Planning for a traditional campus is often carried out in a segregated manner by various separated sections. Success in such a process relies heavily on the common understanding that each section has of traditional classroom methodology. Where an alternative methodology is involved there is no such common understanding, and integrated strategic planning becomes essential to achieve the necessary level of communication between all concerned. This requires resources and project-planning skills.

Developments occurred at both Tea Tree Gully College and Joondalup Campus with substantial commitment to forward planning, with management styles that were consistent with the new approach to educational delivery. This experience suggests that there is a strong link between an open and devolved management style and success in implementing alternative learning delivery.

The requirement for learning materials is the major difference when comparing traditional with non-classroom methodologies. As the learning materials have to be in place before the student can start studying, there is a need for increased and timely investment in materials. This means that additional capital investment must be provided for at any early stage of the development process.

Staff development is essential for successful introduction of alternative delivery methods. A useful guide would be to plan on investing the equivalent of at least five weeks fulltime for every staff member as their induction into the new campus. This is in addition to any specific skill development that is required. The requirement for staff development especially in the alternative delivery philosophy and in team building tends to be considerably underestimated.

Marketing is important. Any innovative project is likely to generate negative attitudes in other members of the system unless considerable resources are allocated to explaining and involving the wider community in the development process.

A further issue, that is likely to have considerable impact on vocational education and especially the implementation of alternative delivery methodologies, is the rapid development taking place in information technology.

The equipment component of a new vocational education facility using non-traditional methodology needs careful consideration. There is a general opinion that alternative methodologies, especially those involving self-pacing, will require less equipment. While this is true in terms of student-practice equipment, it overlooks the requirements of the technology used in the learning process.

Information technology impacts on capital investment in two ways. At the strategic level the use of technology permits alternative solutions to the provision of vocational education. Within the existing system it creates a demand for both equipment and staff development.

Very few TAFE colleges are equipped with computers beyond those used in 'computer classrooms' and administration, yet the role of the computer in the learning management process is becoming increasingly important. At present limited availability of equipment is hindering the acceptance of the technology by staff. As a matter of priority all new facilities should be planned and equipped to take advantage of this technology. This will require a considerable increase in the equipment fund allocation.

Part 1: The Project

Introduction

This paper is the result of a project commissioned by the National Centre for Vocational Education Research Ltd in July 1992. The paper is in four parts. Part one is an introductory section dealing with the rationale and methodology of the project. Parts two and three are case studies of Tea Tree Gully College and Joondalup Campus respectively. Part 4 deals with the major issues that arose from the case studies and subsequent investigations.

Rationale

Each year the Commonwealth Government invests over $100 million in TAFE infrastructure. This investment is in addition to the programs the Commonwealth supports directly through the Department of Employment Education and Training (DEET) and the special funding it provides for specific projects in research, staff and curriculum development. Each State Government also invests significant amounts into the TAFE sector and well as maintaining a high level of recurrent funding support. It is not the intention of this paper to debate the level of funding by either the State or Commonwealth governments but to review some of the processes, particularly those processes involved in investing in new facilities.

Over a number of years procedures were established that provided for the effective management of this funding. In line with the scale of resources involved, quite large organisations developed in Canberra and in each State.

The structures and processes that have developed have done so in the context of a relatively stable educational methodology. This educational methodology is centred on the classroom and is common to all levels of education. As attendance at school is compulsory for children in Australia, all members of society have experience of a classroom and while their recollection of this experience may inspire different emotions, very few would be unable to describe the shape, size and general contents of a classroom. It is within the context of this shared cultural background that the processes and organisations have developed.

Educational innovation and particularly those changes that fit under the broad umbrella of 'open learning' have been around for some years. Their adoption before now has been hampered by the absence of two essential components. The first is the development of the information management technology that permits the dis-aggregation of groups into individuals and the second is the recognition in Australia that increased productivity of all aspects of the community is essential for the country's survival. As a consequence TAFE organisations throughout Australia are embracing considerable change as they move to adopt the new ideas such as 'competency-based training', 'self-pacing', 'individualised training', 'enterprise skills' and 'key competencies'.

It is the impact of such changes on the hitherto orderly processes of capital investment in TAFE that is the subject of this paper.

Terminology

Open learning is used loosely to describe learning processes that vary from the traditional classroom face-to-face delivery. These variations differ from each other to a degree that makes it necessary to define open learning every time the term is used. In some cases the term has been used to describe the use of a particular technology such as television broadcasting, in others it is used to describe an educational philosophy. It is not my intention to add to the confusion.

In this paper the term *individualised learning* is used since it reflects more accurately the motivation behind most of the innovations that are taking place in training in Australia today. Individualised learning is the approach to education which strives to increase access for students by removing administrative constraints on how, when and where they may learn.

Distance education is the process of providing education for a student at some distance from the campus. Distance education does not necessarily imply individualised learning although there is usually a degree of individualisation in most distance-education programs.

Classroom methodology is the term used to describe the traditional learning and administrative processes associated with classrooms.

Alternative delivery is used as a general phrase to describe methodologies that differ from the traditional classroom methodology.

Methodology

The inspiration for this project was the belief that the effectiveness of the capital investment into alternative delivery methodologies was being diminished by a failure to co-ordinate all the aspects such as building equipment, staff development and learning material into a coherent project. It was felt that while each of these components received consideration, the timing and weight given to that consideration might be made more effective, and that, more specifically for TAFE projects involving the introduction of non-traditional delivery, there might be developed a framework which could be used by planners for future projects.

The first phase of the project was to examine two recent examples where significant capital had been invested in a TAFE institution with a specific charter to provide alternative delivery methodology. Detailed case studies were prepared, examining the planning and development phase of Tea Tree Gully College in South Australia and Stage 1 of the Joondalup Campus of North Metropolitan College in Western Australia. These case studies were completed and are included in this report.

Concurrently with the preparation of the case studies contact was made with the Department of Employment, Education and Training (DEET) and the other States to ascertain other examples of the use of alternative delivery methodologies within Australia. Examples were sought from both the TAFE and university sectors. A literature search was conducted to identify if any relevant overseas experience had been documented.

The intention was to use the results of the case studies and literature search to prepare a questionnaire which would be used to survey the experience of those involved in other alternative delivery projects throughout Australia. By these means it was planned to get some quantitative measure of the balance required between the various investment components and hence derive an appropriate investment framework.

In the event this process had to be modified for the following reasons:

- There is no commonly understood vocabulary in use. Different States have quite different interpretation of terms such as competency-based training (CBT), self-pacing and open learning.
- The number of projects involving alternative delivery was small and varied to such a degree that each required its own questionnaire.
- Strategic planning in TAFE arose as a major issue in the case studies. To address this issue required a shift in focus from specific projects to state TAFE planning authorities.

As the number of projects involved was small, information was gathered by conducting a series of personal visits and interviews. In total, 21 interviews were conducted in all States, with the exception of Tasmania and the Northern Territory. Time and finance precluded visiting these States.

Part 2: Tea Tree Gully

Introduction

Tea Tree Gully College (TTG) was chosen as a case study for several reasons. It is a new college, recently constructed on a 'greenfield' site. It has as its charter the requirement to use alternative methodologies and innovative delivery systems. It was also chosen because there are aspects of the planning and development of Tea Tree Gully College which vary from the traditional pattern.

The case study is in two parts. A short description is followed by a discussion of some of the issues that arose from the planning process.

Description

Location

In 1987 Tea Tree Gully was the third largest city in South Australia. Located approximately 20 km to the north-east of Adelaide it is one of the faster growing cities in SA with an expected population of 150 000 by the end of the century. The TAFE facilities consisted of a small campus in an old stone building with a major emphasis on community adult education programs. For the new college a site had been acquired in the city of Tea Tree Gully's Regional Centre Development District, adjacent to the O-Bahn Rapid Transit System Interchange.

The new college

The charter of Tea Tree Gully College requires it to bring together, under one roof, the best examples of the many innovative learning methodologies and practices which are being trialled in colleges within South Australia, interstate and overseas.

'In particular the college is to adopt methodologies which are student-centred as opposed to teacher-centred. As a result the college will produce graduates who, in addition to possessing immediately employable, industry-specific skills and knowledge, will have developed a range of enterprise skills (key competencies) which will enable them to adapt to

change and which will equip them to operate successfully in an enterprising culture.'

Since its opening in February 1992, TTG has become a showpiece for the South Australian Department of Technical and Further Education (SA DETAFE). There are three particular aspects of TTG that attract the attention of visitors.

The first is the building which clearly indicates that flexibility in design does not preclude imaginative and effective use of space.

The second is the way in which TTG has implemented learning programs which are student-centred with emphasis on enterprise skills as well as vocational competence. The college currently offers courses in:

- business/commercial
- clothing and textile
- community adult education
- community services
- computing and information systems
- design arts
- electronics and information technology
- hair and beauty
- hospitality
- preparatory education

The third and perhaps most important is the enthusiasm and sense of ownership generated among staff by the management style of the college with its emphasis on self-managing teams. The experience of TTG indicates that there is a strong link between an open and devolved management style and success in implementing alternative learning delivery.

Planning process

Although it will be described in the following paragraphs in sequential phases, determining the investment in physical facilities in SA DETAFE is not constrained by a rigidly defined process. Instead the approach taken is to adapt the process to the requirements of each project.

The first phase and one that appears unique to South Australia, is assessing the worth of the project. This is determined at the political/directorate level using as criteria government agendas on issues such as vocational training and social justice. The anticipated

impact on the State's recurrent budget is a major consideration. This phase identifies the key issues and stakeholders and represents an approval in principle by the department to proceed with the project. From here the project is put into effect with the formation of a steering committee.

In the second phase a project steering committee is formed with terms of reference as defined in the previous phase and a membership drawn from the major stakeholders, usually at the college-director or equivalent level. Composition of steering committees will vary from project to project depending on the terms of reference and the stakeholders. The task of the steering committee is to refine the parameters of the project and provide the overview and guidance to the subsequent phase. It is usual for a member of the lecturing staff with an appropriate mix of qualifications and experience to be seconded as acting-executive officer for the committee.

In the third phase a project officer is appointed to act as the interface between the planning and facilities section and college staff in the preparation of the brief. The project officer also co-ordinates the activities of the team including architects, State Building Authority and other consultants who put together the documents that go to tender.

In the case of TTG the decision to use the new college as a change agent for SA DETAFE was a deliberate, significant, strategic decision. This decision was supported by the commitment to funding which permitted the college to investigate and develop the alternative methodology.

Other significant features of the development of TTG were the comparatively early appointment of the director and the recurrent funding support for the incremental appointment of staff in the years before the building completion date. Pre-commissioning funds were also made available for the development of well designed, student centred learning materials which are pivotal for this form of delivery.

Timetable of events

The planning for Tea Tree Gully College stretched over a lengthy period as the following schedule shows.

1980+		Need for new facility identified.
1985	May	First educational brief for the new college completed.
1985	September	Chris Ayles appointed as project officer.
1987	March	Michael Sachsse appointed as director.
1987	October	Preliminary project planning completed
1988	February	Commencement of the development of student-centred learning materials and the piloting of the open learning methodology by the business/commercial faculty on the old site.
1988	March	First major statement of alternative methodologies in the report 'Tea Tree Gully College of TAFE: A college for the 21st century'
1989	February	Pre-commissioning budget accepted.
1989	March	Public Works Standing Committee approved recurrent funding commitment.
1989	September	Construction commenced.
1990	January	Recurrent budget agreed.
1990	June	Approximately 20 on staff.
1991	July	Joint public/TAFE library opened.
1991	June	Approximately 50 on staff.
1991	October	Stage 1 completed.
1991	December	Stage 2 completed.
1992	February	First major enrolment period. Official opening by premier of SA, Mr J Bannon and the minister for Education, Employment and Training, Mr K Beasley.

Issues arising

Course profile

Planning for TTG spanned a decade which saw considerable change in the community's expectation of TAFE. This is reflected in the changes in the course profile planned for the college.

The need for a major TAFE facility at Tea Tree Gully had been identified in the early 1980s and, according to the traditional infrastructure planning process, a steering committee was formed to overview the planning. The local population was surveyed to determine their course requirements and from this and other input a profile for the proposed facility determined. The educational brief for the new college was first documented in May 1985 and presented a fairly conventional picture.

Subsequent to the appointment of Michael Sachsse as director of the college in early 1987, the proposed profile was reviewed. Concern had been expressed that there would be duplication of facilities provided by other colleges. Rather than produce more of the same a greater emphasis was placed on providing for areas that were not well catered for, especially the new and emerging areas. The additional investment of funds represented by the pre-commissioning budget assisted in this process. Consultants with study area expertise were tasked to identify the subject areas to be offered, the level of the courses and the expected number of students. The changing profile can be seen in appendix 1.

Comment: *The pace of change in industry and Government policy is rapid. In turn these changes alter the community's expectations of a TAFE facility. It would be unrealistic not to expect that the range of courses to be offered in a college would change over the normal planning period of 5 to 7 years. Incorporating this expected change into the planning process is a major challenge.*

It is also worthwhile noting that even with the lead time and resources available the college has an automotive workshop which is being converted for use as an electronics facility, further emphasising the problem of changing community requirements.

Learning methodology

With the encouragement of the then director general of TAFE, Mr Lyall Fricker, the planning overview committee referred to in the previous section also sought to use the new college as an opportunity to

introduce new delivery methodologies into TAFE in SA. In order to assist the committee to research and determine the nature of these methodologies, Mr Chris Ayles was seconded to the committee, initially as executive officer and then as project officer in September 1985. Although only part-time Mr Ayles played a significant role in linking the developing educational methodology with the other planning aspects.

On his appointment in 1987, Michael Sachsse was tasked to 'assist in the planning and establishment of a new college which will employ alternative methodologies and innovative delivery systems'.

In 1987 the report *Australia Reconstructed* was published and is recognised as having had a significant impact on the determination of the corporate objectives for the DETAFE and in turn on the college's mission and charter.

By March 1988 the educational methodology had been determined to the extent that it would be 'student-centred' and 'rely heavily on advanced technology'. It is clear from the arguments advanced in the supporting document accompanying the submission for capital funding that there was a strong belief that the alternative educational methodology was not only more effective but more efficient as well. In September 1989 the learning strategies were defined in the charter of Tea Tree Gully College referred to earlier.

Comment: *One of the first problems facing the planner is to determine the particular methodologies that will be used. This is a critical on-going process as it has implications for aspects such as building design, learning materials, administrative procedures and so on. It also absorbs considerable energy and resources that are not required if conventional methodology is used. In the case of TTG, by March 1988, approximately two 'full-time equivalents' (FTE) had been invested in determining the essential components of the methodology to be adopted.*

Co-ordinated planning

The appointment of the director at a very early stage had a significant impact on the planning of the project. Utilising Apple-Mac-based software the project was planned in detail and a critical path analysis prepared. This was a comprehensive plan incorporating tasks under the following main headings:

- staff development
- joint library
- building
- learning materials
- educational sub-programs
- industry involvement
- staff recruitment
- administrative systems

The planning extended through to the completion of Stage 2, spanning a period of over four years. The benefits of such an exercise are obvious.

Comment: *Planning for a traditional campus is often carried out in a segregated manner by various separated sections. Success in such a process relies heavily on the common understanding that each section has of traditional classroom methodology. Where an alternative methodology is involved there is no such common understanding. A comprehensive, coherent plan developed by a single authority is essential to achieve the necessary level of communication between all concerned. This requires resources and project planning skills.*

Architecture

The new TTG was built on a 'greenfield' site which eliminated many of the problems confronting those who have to refurbish existing buildings. It did provide however an opportunity to create a building which could reflect the desired methodology.

Planning for the building appeared to take the usual amount of time of approximately three years. This time seems to be governed by cash flow requirements of Commonwealth funding rather than any architectural constraint. Indeed the latter stages of construction were 'fast tracked' bringing about an earlier than anticipated completion date.

In the case of TTG while the lengthy period from concept to completion brought with it the perennial problem of changing requirements, it also provided a critical period prior to construction which permitted the refinement of methodology and management systems.

The TTG planning team recognised the uncertainties with which they were grappling and insisted that the building be designed to cater for change. The result is a building that not only has the ability to be rearranged internally according to need, but also could be adapted for other than TAFE use if required in the longer term.

Comment: *Flexibility in building design is now a common topic among TAFE authorities and while TTG provides an excellent example of how flexibility can be achieved, concern has been expressed at the cost involved. It is important to note however that with the exception of the commercial kitchen, there are no traditional workshop type courses with their requirements for special fixtures offered at TTG.*

Work-station configuration

More recently TTG has identified an area of building design that had been overlooked. This was in the area of student work-station design. The usual allocation of a small, student's desk and a chair is inadequate when students are expected to utilise a high level of resources. The issue is more than simply providing larger desks as the configuration of the work stations and the learning area need to support the requirements of the learning program.

Comment: *This is a good example of the extent to which a change in methodology requires a careful rethinking of every aspect of buildings and equipment. Research is now being conducted at TTG to develop guidelines for the establishment of learning environments which are conducive to the use of open learning methodologies.*

Equipment

TTG provides a clear indication that adopting a student-centred approach can mean a reduced requirement for some types of equipment. In the hairdressing area this meant a reduced requirement for content-related equipment such as shampoo basins, however, the emphasis on a 'resource rich' learning environment required an increase in the learning equipment available. Overall TTG's equipment vote, based on conventional estimates, was inadequate. Increased sophistication in learning technology means that the balance between building and equipment is changing.

Staff structure

TTG has introduced some significant changes to the traditional staff roles within a TAFE college. The changes were brought about by the review of traditional staff functions subsequent to the adoption of student-centred learning methodologies. One of the outcomes of these changes was a better utilisation of the position called 'lecturer's assistant'. Lecturer's assistants work under the direct supervision of a lecturer and are expected to assist students with content-related questions.

An equally important change occurred in the overall management structure of the college. The adoption of an 'open' approach to student learning was paralleled by the development of an open-management style. This formalised into a 'self-managing teams' approach which has increased staff ownership and empowerment within a flatter management structure. At the time of writing the organisational structure had only three levels (two of management) viz director, educational manager and self-managing teams.

Comment: *Staff ownership is critical to a successful implementation of alternative delivery strategies. Traditional management structures are not suited to the degree of openness required. A benign industrial relations' climate is important.*

System hostility

By its charter TTG was to be an instrument of change and as a result TTG at various times attracted hostility from some other parts of the TAFE organisation in SA. This hostility expressed itself as jealousy at the perceived advantageous treatment received by TTG or in attempts to denigrate the

effectiveness of the learning programs developed there.

Comment: *Marketing is important. Any innovative project is likely to generate negative attitudes in other members of the system unless considerable resources are allocated to explaining and involving the wider community in the development process. This is time consuming and expensive and difficult to achieve at least until the project is actually up and running and providing positive evidence of its success.*

There is a positive aspect to the perceived special treatment received by TTG in that some staff at other colleges were motivated to implement change in their sections.

Financing

Financing for the building proceeded through the normal channels of Commonwealth Government funding for capital works. The aspect of financing which makes TTG different is the degree of investment by the SA State Government in the project.

Significant funding was made available by the State Government well ahead of the opening of the building. Supported by the detailed planning mentioned previously, a pre-commissioning budget was approved which permitted the essential research and development work to proceed. In 1989–90 this represented approximately $1.1m rising to $2.16m in 1990–91.

The Commonwealth provided approximately $30 000 000 for the project with about $1 100 000 allocated to furniture and equipment. The latter amount has been found to be inadequate with the requirement being closer to $3 000 000.

Comment: *By gathering the figures together and using very broad estimates, it is possible to get an indication of the proportion of investment that is required for the various aspects of a major project.*

It would appear that in the case of TTG the ratio of investment of building to

equipment to staff development to learning resources to project (non-building) planning was of the order of 29:1:2:1:0.5. and desirably should have been 29:3:2:1:0.5.

Summary

Tea Tree Gully College was deliberately chosen as a vehicle to introduce change to SA DETAFE. As a 'greenfield site', it was not constrained by existing facilities and significant pre-commissioning funds were made available for developmental work.

Determining the learning methodology to be used is only the first step in a process that requires considerable investment. Any move away from the conventional requires the development of procedures and learning materials that are normally taken for granted. At Tea Tree Gully the investment in these aspects was significant both in time and other resources.

The course requirements of an area are difficult to anticipate in the normal lead time that it takes to plan a TAFE facility. Even with considerable additional investment TTG did not manage to get it completely correct. Possible options would be to reduce the building time, reduce the planning time, use 'flexible' techniques in the building and in the planning process.

Tea Tree Gully College represents an excellent example of how the various elements such as staff, building, equipment, programs, learning materials can be co-ordinated in a new facility. The early selection and appointment of the director was a major factor in achieving this co-ordination. The leadership, management, planning and marketing skills of the director were equally as important.

THE CHANGING PROFILE

TEA TREE GULLY COLLEGE: 1987–1992

May 1985

Access

Business and Commercial

Clothing and Textile

Community Services

Hospitality

Matriculation Studies

Art/Craft Certificate

Automotive (Basic Trade)

March 1988

Access
- Women's Education, Vocational Literacy, Community Literacy, Study Skills, BASE

Business Studies
- Accounting, Banking, Supervision, Small Business, Retail Sales

Commercial Studies
- Commercial - Adv Cert, Cert, Traineeships, Labour Market Programs

Computer Studies
- Data Processing, Microcomputer Systems, Record management, Information Systems, Computer Applications

Hospitality and Tourism
- Hotel & Catering Operations, Food & Beverage Service, Advanced Restaurant Service, Wine Waiting, Commercial Cookery, Tourism, Asian Languages

Hairdressing
- Basic Trade, Post Trade, Cosmetology, Trichology

Community Care
- Foundation, Child Care, Youth Care, Aged Care, Disabled Care, Residential Care

Automotive and Associated Trades
- Basic Trade, Advanced Trade, Automotive Electronics, Fluid Power, Welding, Fitting/Machining, Industrial Design

Clothing & Textiles
- Clothing, Soft Furnishings

Commercial and Applied Art
- Ceramics, Sculpture, Electronic Imaging, Painting, Applied Design, Visual Marketing, Commercial Art(Adv Cert), Art(Adv Cert)

September 1989

Access
- Community Literacy,Vocational Literacy, Study Skills, Women's Education.

Business/Commercial
- Accounting,Banking,Commercial,Retail Sales, Supervision, Small Business.

Clothing and Textile
- Introductory Certificate, Fashion.

Computing and Information Systems
- Data Processing, Information Systems, Microcomputer Systems, Record management, Computer Applications.

Community Services
- Foundation,Child Care, Youth Care, Aged Care, Disabled Care, Residential.

Community Adult Education
- Full range of leisure and personal interest courses

Design Arts
- Ceramics/Sculpture, Design, Electronic Imaging, Painting, Applied Design, Visual Marketing, Commercial Art

Electronics
- Electronic Servicing, Electronics (Basic Trade), Digital Techniques, Computer Maintenance, Electronic Assembly, Microprocessor Basics, Microprocessor Applications, Audio/compact Disc Servicing, Video Recorder Servicing

Hairdressing
- Pre-Vocational, Basic Trade, Post Trade, Trichology, Cosmetology

Hospitality
- Food and Beverage Service, Advanced Restaurant Service, Commercial Cooking, Pre-Vocational Cooking, Asian Languages.

February 1992

Business and Commercial
- Cert in Business Practice
- Cert in Commercial Studies
- Cert in First Line Management
- Cert in Personnel and Industrial Relations
- Statement of Attainment in First Line Management.

Clothing and Textile
- Cert In Fashion (Introductory)
- Cert in Fashion (Product Knowledge)

Community Adult Education

Community Services
- Cert in Community Services (Introductory)
- Cert in Community Services (Aged/Intellectual Disability)
- Advanced Cert in Child Care

Computing and Information Systems
- Cert in Microcomputer Support
- Cert in Microcomputing
- Advanced Cert in Computing
- Associate Diploma in Computer Applications
- Associate Diploma in Information Systems

Design Arts
- Cert in Design Arts (Introductory)

Electronics and Information Technology
- Introductory Vocational Education Certificate
- Cert in Computer Maintenance
- Cert in Digital Techniques
- Vocational Bridging Program

Hair and Beauty
- Cert in Hairdressing
- Pre-Vocational Training
- Cert in Cosmetology

Hospitality
- Cert in Commercial Cookery
- Cert in Dining Room Service

Preparatory Education

Part 3: Joondalup Campus

Introduction

Joondalup was chosen as a case study for several reasons, not the least of which was the personal involvement of the author. It is a new campus being constructed on a 'greenfield' site. Its charter is to act as a 'lighthouse' project for the development and implementation of alternative delivery methodology in TAFE in Western Australia and aspects of its planning varied from the traditional.

The case study is in two parts. A short description is followed by a discussion of some of the issues that arose from the planning process.

Description

Location

Joondalup is being developed as the new city centre for the city of Wanneroo in the northern metropolitan corridor approximately 30 kilometres from the centre of Perth. The city of Wanneroo is the fastest growing region in Western Australia with an estimated 116% population growth to the year 2001. This represents a population of nearly 300 000 residents. The campus has been located close to the city centre and major public transport facilities.

The college

The North Metropolitan College of TAFE comprises the three main campuses of Carine, Balga and Joondalup and the five centres of Mt Lawley, Subiaco, Churchlands, Craigie, and Scarborough. The college was formed comparatively recently (1989) as a result of the amalgamation of existing smaller colleges and centres and has a regional responsibility for the provision of TAFE in the north metropolitan region.

The new campus

As previously indicated, the rate of growth in the northern corridor has been high. This is reflected in the city of Wanneroo planning figures which estimate a daily student population for all Joondalup

educational institutions of 25 000 by the year 2001. TAFE's share of this is estimated at about 10 000. Overall planning for Joondalup has been based on these estimates with construction to be staged to match demand.

The first stage of the Joondalup campus opened to students in July 1992, offering courses in accounting, office and secretarial studies, computing and communication skills. The course profile for the subsequent stages is still undecided with emphasis being placed on providing places for immediate school leavers.

Philosophy

In 1990 a formal decision was taken by the then board of TAFE Directors that the Joondalup Campus was to pilot the implementation of open learning in the WA TAFE system. The central philosophy of Joondalup Campus is based upon its charter, which is:

TO PRODUCE SKILLED GRADUATES WHO ARE SELF-DIRECTED LIFELONG LEARNERS.

Joondalup Campus emphasises a self-paced, learner-centred approach rather than teacher-centred delivery. This philosophy puts the needs of the learner above the requirements of the institution.

In terms of educational outcomes, the campus aims to produce graduates who, as well as having competencies in specific vocational skills, will be self-directed and will possess a range of broadly-based, transferable skills that will enable them to:

- set and achieve goals;
- identify and solve problems;
- adapt to and manage change;
- access and use information;
- communicate in verbal and non-verbal forms; and
- work independently and as part of a team.

Learning facilities

Learners at Joondalup Campus will have access to a variety of different learning methodologies which can be described as learner-centred, resource-based and competency-based. Significantly, learners will have access to a multiplicity of different learning facilities including:

- learning areas that simulate vocational environments and enable learners to use different work-stations as they work individually or in teams;

- local resource centres that bring print materials and audiovisual resources to the learners;

- a 'central learning resource' that is open extended hours, offers a full collection of learning materials and provides access to high-tech multimedia programs.

Joondalup's approach to staff management reflects the commitment to its charter. At Joondalup Campus there are three broad categories of staff:

- academic program
- learning resource
- administration

Tasks and responsibilities for each group are attached as an appendix.

Staff will be organised into self-managing teams, comprising members from all three categories. Teams will assign tasks and schedule duties to maximise team effectiveness in providing support for learners.

Joondalup Campus encourages learning to take place in an environment that creates a unique level of co-operation between the learner and the entire campus staff. The primary aim of all campus staff is to promote learning, while leaving ownership of, pride in and responsibility for the learning in the hands of the individual.

Planning process

The planning process for Joondalup stage 1 occurred in two separate parts. The first part, that of the building and initial equipment, followed the traditional path developed by the TAFE central office to deal with Commonwealth-funded capital works. The second component, with a curriculum and staff development focus, broke new ground for WA TAFE. The formation of the Joondalup project team to develop the learning materials and procedures for the new campus was a first for WA TAFE.

Building and equipment

Within the TAFE head office structure, the responsibility for planning and scheduling new buildings and major renovations was the function of the technical services section. In conjunction with the study area superintendents and the finance section, this section managed centrally:

- the bidding for and scheduling of capital works funding from the commonwealth;
- the architectural brief for the new facility;
- liaison with the State Building Management Authority who designed and constructed the building; and
- the purchase and installation of equipment.

Planning for Joondalup followed the traditional path in the initial stages of this process as the need for a facility was identified from demographic information, scheduled as part of the longer term plan, postponed due to a decision to concentrate the funds elsewhere and then brought on-stream in 1988. Capital funding for major works is usually scheduled over several years to fit the cash-flow requirements into the annual budget allocations.

From early 1990 the college began to play an increasing role in defining its requirements to the architects and building managers. Unfortunately the input from the curriculum team was too late to do more than make internal changes to the stage 1 building. This experience prompted the college to insist on a greater degree of ownership of the brief for subsequent stages. This represents a significant change in procedures.

Curriculum project team

The allocation of significant resources ($0.4m) to form a curriculum project team represented a major change in TAFE planning procedures. Initially planned as a team of six with the task of developing the learning materials, the team expanded both its role and size as the complexity of the task evolved.

Eventually the team increased to twelve and tackled a range of tasks which included:

- selecting learning materials
- writing learning guides
- modifying curriculum
- designing question banks
- designing administrative procedures
- advising on internal building layout
- advising on furniture and fittings
- negotiating the purchase of interstate curriculum
- purchasing learning resources
- setting up the central learning resource
- marketing the concepts to TAFE staff
- designing and conducting staff development programs
- negotiating changes in the TAFE examination system
- negotiating the acceptance of the different methodology with DEET to ensure students would receive AUSTUDY

It is important to acknowledge two other factors that affected the way in which the planning of Joondalup took place. The first is the restructuring of WA TAFE that took place in 1989 and again at the end of 1991. These changes disrupted existing networks and cast confusion over the responsibility for some processes. The second factor is that Joondalup is planned to be a large campus developed over the next ten to fifteen years and that planning is therefore an ongoing process.

Timetable of events

Planning for a TAFE facility at Joondalup has been spread over a considerable period of time.

1975+	Demographic information identifies the need for a new college at Joondalup by 1984.
1980+	Development of new colleges in population growth areas deferred in favour of upgrading existing centralised facilities.
1988 October	Concept proposal to Canberra. Includes a 'philosophy statement' indicating non-traditional delivery.
1989 December	M Goff appointed director of the new North Metropolitan College.
1990 September	Joondalup campus stage 2 project team reports on the course profile for subsequent stages.
1990 November	Approval for funding for curriculum team. Steering committee formalised.
1991 January	Construction of stage 1 commenced.
1991 February	Joondalup curriculum project team formed.
1991 March	Official launch of Joondalup open learning concept.
1992 August	Official opening of stage 1 by the Minister of Employment, Vocational Education and Training, Ms Kay Hallahan.

Issues arising

Educational leadership

Until 1989, WA TAFE was administered centrally from a head office located in Perth. A series of reviews and reorganisations resulted in a major restructuring in 1989 with the sixteen colleges and ten major centres clustered into five regional colleges (four

metropolitan, one country). As part of this major restructuring the new colleges were granted more autonomy with several functions devolved from head office. As a further consequence Joondalup Campus became part of North Metropolitan College and for the first time, the concern of a college director. Until this time the campus planning was the responsibility of the technical services section and in the normal course of events staff would not have been appointed until the building was about to be completed.

Comment: *The different structure provided the opportunity for educational staff to make a major contribution to the planning process. The way in which the college directorate took advantage of this opportunity was a significant factor in the successful implementation of the alternative methodology.*

Course profile

The final size of the Joondalup Campus is such that staging of the building program over several years was mandatory. This adds an additional complication to the determination of the course profile in that the debate is concerned not only with the final profile of the college but also in what stage a particular course or study area should be introduced.

In the submission forwarded to Canberra in 1988 the following course profile was proposed:

commercial studies	stage 1
business/management	stage 1
computer studies	stage 1
trade training in automotive and metal trades	stage 3
pre-vocational training	stage 3
agriculture/horticulture	stage 2
labour market programs	stage 1
community adult education	stage 1

Following the 1989 reorganisation Joondalup became a campus of the North Metropolitan College. In order to determine the study areas for stage 2 of Joondalup, the college found it necessary to conduct a review of all its offerings in order to make a rational decision as to what the profile at Joondalup should be. This review was completed by September 1990 and

proposed the following profile for the development of the campus:

office and secretarial	stage 1
business, management and accounting	"
computing	"
communication skills/general studies	"
horticulture	stage 2
community care	"
automotive engineering	"
panel-beating	"
spray painting	"
fitting and machining	"
mechanical fitting	"
electrical engineering	"
electronic engineering	"
mechanical engineering	stage 3
languages	"
animal studies	"
enrolled nursing/health studies	"
retail	"
art (undecided)	
hairdressing (undecided)	
aircraft engineering	later
clothing and fashion	"
instrumentation and process control	"
land care	"
library studies	"

To accommodate the cash flow from the Commonwealth it was necessary to split stage 2. In December 1990, it was agreed that stage 2a would consist of the metals engineering trades including electrical trades plus electronic engineering. Automotive engineering, panel-beating and spray painting would follow in stage 2c and horticulture and community care in stage 2d. Stage 2b was to be a central learning resource building.

Stage 2a was at the construction document stage in August 1992 when TAFE Central Office decided that a review of the course profile was necessary and a hold was placed on stage 2a. Other subject areas are under consideration but the most likely outcome will be the

advancing of stage 2b to 2a. This last minute decision reflects the lack of an effective strategic planning process for TAFE across the state.

Comment: *Vocational training and TAFE in particular is in a state of continual change. The strategic planning undertaken by the college had an effective shelf life of only eighteen months. This is about the time required by the architects to design the building. Matching a lengthy building process to volatile requirements is a major challenge.*

Learning methodology

The learning methodology finally determined for Joondalup owes a considerable amount to the influence of activities in other states. Joondalup was particularly fortunate in the way in which a strong sister college relationship was able to be established with Tea Tree Gully College.

The initial charter for Joondalup was to pilot open learning in TAFE in WA.

One of the early tasks prior to the formation of the project team in early 1991 was to refine and define more specifically what open learning was to mean at Joondalup. While it was comparatively easy to write a brief summary in the form of an 'educational philosophy' statement and produce a brochure to market the idea, translating these ideas into the reality of procedures and learning materials took many months of hard work.

The initial focus was on the issues of access and individualising the learning of content. The concepts of a 'life-long learner' and of 'enterprise skills' initially received little more than token consideration until about September 1991 when Bob Wilson of Tea Tree Gully spent nearly a week working with the team. Subsequent to this visit and as a result of a time extension until June 1992 the team was able to invest considerable time and effort into refining the key processes to ensure they reflected the philosophy of the campus.

Comment: *As more and more TAFE institutions throughout Australia adopt aspects of*

alternative delivery, it becomes easier to define the particular style required. The cross fertilisation of ideas is important and should be part of the induction of staff joining the project. This requires time and resources for travel.

While ideas and solutions from elsewhere are important, it will be most unlikely that any solution that is imported will fit exactly the local requirements. Each situation remains unique and resources should be allocated to 'customise' the concepts to a particular campus.

Curriculum Issues

Accreditation

In the very early stages of the project team (February 1991) there was some discussion about a new 'office management' associate diploma level course which would be structured around a common base with three specialisation streams; one each in office and secretarial, accounting and computing. Most of the subjects would be taken from existing courses. This proposal did not proceed. The time required by the formal accreditation process would not permit approval of such a course prior to the planned start date and concern was expressed that students could be disadvantaged in seeking employment if the credibility of such a course could not be quickly established. Concern had also been expressed that it was important for the accounting course at Joondalup to maintain its accreditation with the National Institute of Accountants (NIA). As a result it was determined that at Joondalup, the courses offered would be standard TAFE courses and that the 'difference' would be in the delivery methodology and in the enterprise skills imparted to the students.

Comment: *When existing courses and subjects are examined with the intention of changing the delivery methodology there is a temptation to start afresh and design completely new courses. There are considerable risks in this approach. Accreditation is a time consuming process. The new course requires a major marketing effort to gain community*

acceptance of the new structure and the new methodology. Just maintaining the goodwill of industry is a major task to which considerable resources must be allocated.

The decision at Joondalup to work within the existing course framework reduced the risks considerably. By keeping the TAFE study area committees and industry well informed from quite early in the piece and maintaining an open and sharing approach, major opposition was avoided.

Course structure

Identifying appropriate learning materials for the range of subjects had been identified as a major task for the team. What had not been realised was the degree to which existing subjects required structural review. In both the accounting and the office and secretarial courses it was discovered that constraints of timetabling had caused some topics to be fragmented over several subjects; that prerequisite subjects were not essential; and that technological change especially the use of computers had been incorporated into the courses in a somewhat haphazard manner. To develop effective learning materials it was necessary to break subjects into modules with a certain amount of internal restructuring.

Learning materials development

Availability of materials

The educational philosophy adopted for Joondalup required a range of learning materials for each topic. The goal was to provide a range of learning materials that would provide students with a choice of media. This was felt necessary for motivational reasons and also to reduce the dependence on literacy skills that solely print-based materials require. Commercial materials were to be used where available. In the event this was too ambitious given the resources available and would have been impossible without the reservoir of learning materials made available from Western Australia's TAFE External Studies College.

Comment: *The requirement for learning materials is the major difference when comparing traditional with non-classroom methodologies. As the learning materials have to be in place before the student can start studying, there is an increase in the need for capital investment.*

Style of materials

Not surprisingly learning materials obtained from other sources reflect the educational philosophy of the institution that developed them. This was particularly noticeable with materials developed for distance education. Where there was a need to provide for the isolated student, this was reflected in the way that the learning materials provided all the necessary information in a highly structured format. Many commercial materials were designed to be used in the workplace where the student would have the opportunity for immediate and constant practice. These variations do not make the materials unusable but it does require the development of guides which place the material in the context of the educational philosophy of the institutions.

Development of materials

In determining the composition of the team, a list of the skills required was prepared and then allocated to various job descriptions. The need for content expertise in the various subject areas was identified as was the need for instructional design skills. These were then advertised in separate positions. The need for word processing and desk top publishing was overlooked. The lack of these skills in the team and the separation of content expertise and instructional design caused delay and some conflict.

Comment: *An alternative is to choose content experts with instructional skills. If such persons are not available, then choose content experts and provide the instructional design skills as training.*

Staff issues

Industrial relations

Throughout the whole period the industrial relations climate in WA was particularly sensitive. This was especially so in the TAFE teaching area where the restructuring had brought about considerable change in promotional positions. To some lecturing staff, the alternative delivery planned for Joondalup and the individualised learning were seen as an attack on teachers' conditions. Developing staff teams and promoting a whole-of-campus approach to student learning also had to overcome the further difficulty that non-teaching staff were represented by different unions.

Comment: *A hostile industrial relations climate exacerbates the problem of introducing change to staff. Where such conditions exist, additional resources must be allocated to explaining and discussing the planned changes.*

A TAFE Act which covers all staff who work for the department should be considered.

Staff development

Staff development was a major component of the Joondalup team's effort. Initially the team went through a lengthy settling process by which they came to terms with the concepts being developed. This was an essential process that each new staff member had to undergo as they joined the team. Each individual required the equivalent of about four weeks fulltime to internalise the philosophy. Where members were added to the original team the activities of the team served as the induction process. When a major expansion took place immediately prior to the official opening it was necessary to conduct a formal induction program.

Comment: *Staff development is essential for <u>all</u> members who are going to work on campus. A useful guide would be to plan on investing the equivalent of at least five weeks fulltime for every staff member as their induction into the new campus. This is in addition to any specific skill development that is required.*

Subsequent experience with operations at Joondalup suggests that the requirement for staff development especially in the philosophy and in team building was considerably underestimated.

Co-ordinated planning

The initial move towards using an alternative delivery at Joondalup came from Mr Malcolm Goff, the director of the newly formed North Metropolitan College. As acting principal at Rockingham Technical College, Mr Goff had the opportunity to visit Richmond College in Victoria and Tea Tree Gully in SA. As director of the college he provided the motivation and the resources that made the concept possible.

Comment: The continuing support provided by the director of the College was a major component in the success of the project.

A 'steering committee' model was used to co-ordinate all aspects of the project. Kath White as assistant director (college services) carried responsibility for the building program, while the project team was managed by the author. For the director and the assistant directors the development of Joondalup was in addition to the operation of a major college.

Comment: There was a general under estimation of the degree of communication needed between all the stakeholders. In hindsight the development of a co-ordinated plan was important and should have been a priority for the project leader.

Team location

Initially the curriculum project team was located separately from the college directorate. This exacerbated the communication problems between the team and those members of the directorate with responsibility for particular aspects of the planning. The team was later relocated to accommodation adjacent to the directorate with better communications resulting.

Comment: Communications play an essential role in innovative developments and those involved should be located to promote this.

Summary

While the decision to make Joondalup an 'open learning' campus was taken quite late in the planning process, the formation of a special team to address the curriculum issues largely compensated for this. The latter being an important and innovative step for WA TAFE.

The initial focus of the team was to be on the development of learning materials however it was soon recognised that to effectively adopt an individualised learning approach, a whole system had to be created. Eventually the team found itself with several additional tasks ranging from the development of administrative procedures to advising on furniture and equipment.

Although the planning for the building was well under way the project team was able to make a significant contribution to final result. The strong support of the college directorate in negotiating these changes with the building authority was important.

The need for a co-ordinated plan for the project was not recognised until quite late, nor was the critical need for constant communication between the parties involved.

The flexible, individualised learning methodology in place at Joondalup represents a response on the part of TAFE in Western Australia to meet the changing needs of the community. To achieve this required a significant initial or capital investment in areas such as curriculum development, staff development and learning materials which are usually considered to be part of recurrent costs.

Appendix to the Joondalup case study

Major staff groups and responsibilities

Staff will be organised into self-managing teams, comprising members from all three categories. Teams will assign tasks and schedule duties to maximise team effectiveness in providing support for learners.

Program staff

- On the learning floor they provide learners with continuing support, guidance and direction to facilitate their progress through the learning programs.
- In the development of course-ware they assist in planning, producing, implementing and evaluating learning programs.
- In the support of the learning process they provide learners with career and program advice, and assist in the determination and attainment of learning goals.

Resources staff

- On the learning floor they assist in the management of resources and provide first line support for learners.
- In the development of course-ware they provide an information, resources, and learning design consultancy service.
- Through the central learning resource they provide materials, equipment and services to support program development and delivery.

Administration staff

- On the learning floor they provide administrative support related to management of course-ware and learners' progress through programs.
- In the support of the learning process they provide information, counselling, amenities and computing services.
- Through the campus structure they provide reception, registry, finance, records, supply, information technology, maintenance and security services.

Part 4: Major Issues

Introduction

Several major issues arose during the investigation. Some issues were not confined to the investment into alternative delivery but were relevant to the whole question of capital investment in TAFE. This is particularly true of the strategic planning issue and the co-ordination of Commonwealth investment in building, curriculum, and staff development. Information technology will have an impact on the learning process and possibly the structure of TAFE, but any discussion can only be speculative. Other issues discussed have a narrower focus.

Strategic planning

Current planning model

If the only tool you have is a hammer, then there is a tendency to see every problem as a nail. – anon

. . . TAFE appears to be more interested in constructing physical facilities, sometimes referred to as Taj Mahals or sometimes as TAFE colleges, rather than creating flexible industry training networks.' – Dr Helen Parker, Director, Queensland Distance Education College.

The following represents a broad summary of the planning models used by most States. While this model is essentially resource driven, the degree to which this happens does vary from State to State.

In the first phase, a 'strategic' planning section in the state organisation uses demographic information and other input from colleges and the community to draw up a long term (usually 5 years) plan of the facilities that are going to be built. These plans are flexible in that projects can be delayed to accommodate other initiatives or variations in government funding.

In the second phase a 'concept' proposal is prepared which provides the justification for the project and an initial estimate of the cost. Associated with the concept proposal is the development of an architect's brief for

the new facility. Architectural demands for information provide the major impetus for decisions on curriculum issues. The concept proposal is a significant step forward as it is the first time the course profile of the new facility is identified. It is also the first time the cost of the project is estimated and this may result in a reshuffling of the projects in the five-year plan to accommodate expected cash flows.

Approval of the concept proposal is the signal for the start of the third phase which is the building planning and construction phase. Staffing appointments are made on the just-in-time principle to ensure the college is staffed when it is opened.

This model has the advantage of ensuring that Commonwealth and State funds are allocated to facilities throughout the community in an orderly and systematic manner. It has the flexibility to allow States to vary their programs in order to accommodate either political initiatives or demographic changes.

The existing model however has several disadvantages:

- It is a single solution model i.e. a building.
- It is unable to react quickly to changes in the environment.
- It is entrenched in the organisation with permanent staff making change difficult.
- Curriculum input is sought in terms of the building requirements, which pre-empts discussion of alternative solutions.

Response times

The 'building fixation' referred to by Dr Parker is common to TAFE organisations throughout Australia. An examination of the response times for some of the factors that influence TAFE gives an indication as to how this state of affairs has come about.

- Governments can effectively plan only until the next election. This means a maximum planning period of 4 years, reducing constantly.

- Site acquisition for TAFE facilities can take place 10 to 15 years in advance of building. This is a low risk activity as the site can always be sold or exchanged later.

- A reasonably sized TAFE facility takes about one year to plan in the architectural sense and about 18 months to construct.

- Colleges are funded on an annual basis.

- The maximum length of most TAFE courses is two years.

- A major curriculum revision takes about two years.

- Demographic information and predictions are usually a couple of years old by the time they beco me available.

Site acquisition and building planning demand decisions about future locations of TAFE facilities several years in advance. Thus the first questions asked about the provision of TAFE in a new locality in the future are prompted by building issues and the answers to these questions can sometimes pre-empt consideration of any alternatives.

Two other factors reinforce the focus on buildings. They are:

- An expectation that each State will receive about the same amount of federal funds for capital work s each year regardless of the political persuasion of the governments. This appears to be one of the few certainties of the planning process and is reflected in the confidence with which each State is able to produce its rolling five-year plan for the construction of TAFE facilities.

- There is a cultural expectation that education of any sort will be provided in schools. As a result communities express their need for vocational education by a demand for TAFE colleges.

Given the volatility of the other influences on TAFE, it is not surprising to find that the only long-term planning is done by the buildings and facilities groups in each State. In some cases so called strategic

planning takes place within a framework in which the building program is already decided.

If TAFE is to take full advantage of the capital invested each year then planning must take place in a truly strategic manner and investment in buildings must be relegated to its rightful place, that of one of a number of options available.

Proposed model

'Our plans miscarry because they have no aim. When a man does not know what harbour he is making for, no wind is the right wind.'– Seneca (4 B.C.– A.D. 65)

'What we need is a flexible plan for an everchanging world'– Governor Jerry Brown, USA

The following is suggested as a planning model to ensure the effective use of capital investment in TAFE. A particular project would pass through each of the three phases or levels.

The politico-strategic phase

TAFE operates in a political environment. Scanning this environment, providing information, researching issues etc. is the function of the top level of the organisation. From these activities a need or problem is identified, a priority allocated, and agreement reached with the government that resources should be allocated to the problem. It is important for the effectiveness of the organisation that there is no attempt to prescribe solutions.

The problem-definition phase

A small task force is formed to examine the problem, define the parameters, develop alternative solutions and broad estimates of cost. The task force must produce a recommended solution with viable alternatives. There must be sufficient resources allocated to permit the task force to research certain aspects as appropriate. One of the keys to success at this phase is to require this team to concentrate only on the task in hand with authority to communicate with any level of the organisation. External consultants may be used. While the task force should

produce a preferred option and viable alternatives, the choice of option is made at the higher level.

The project-implementation phase

A steering committee of major stakeholders is formed. Their role is to keep the project aligned to its terms of reference. A project leader is appointed, resources allocated and the project is under way. Comprehensive planning is the first task as this ensures the co-ordination of all aspects as well as the scheduling of resource requirements.

Advantages

The major advantage that would accrue to the organisation that adopted this model would be in the way in which it regains control of its capital investment program. Investment is directed at improving the effectiveness of the organisation.

The model has the flexibility to focus on problems that are seen as major concerns and is not constrained to apply any particular remedy. Solutions to the problems are not restricted to facilities infrastructure.

The process is driven by the needs of the organisation not the flow of resources.

The problems of poor integration and planning would be overcome by this model.

The model does not require a permanent staff structure other than a support section at the top level. Both the project definition and project implementation phases should be staffed by teams formed specifically for each task.

An added benefit is the opportunities these tasks 'would provide to train and evaluate personnel for advancement.

Disadvantages

This model has some disadvantages:

The model does not solve the problem of the volatile environment, although it does allow this factor to be identified and considered in determining alternative solutions. Decisions taken in good faith will still be overtaken by events, however the consideration given

to all factors in the second component of the model, would help in minimising the impact and cost of such changes.

Seconding staff to special projects can be disruptive to operations.

Educational philosophy

'The secret of education is respecting the pupil'– Ralph Waldo Emerson (1803-1882)

The search for more effective alternatives to traditional training delivery has received increased attention as a result of the changes occurring in industry. However providing access to students who are disadvantaged by the traditional classroom delivery methodology has been and is one of the major forces behind the development of alternative delivery strategies. Two quite different solutions have emerged; however, as both schools of thought use the same terminology, the differences are not commonly realised.

Extend the classroom

The first group, with its origins in the distance education institutions, seeks to improve the efficiency of the traditional classroom delivery by using technology to expand the walls of the classroom. The emphasis is on the use of communications technology to allow a greater distance to exist between the lecturer and the student. The roles of the lecturer and the student in the learning process remain essentially unchanged.

Video-conferencing at Light College in South Australia and Kimberley Learning Networks established by the Western Australian Distance Education Centre are examples of this philosophy at work. This philosophy is also common in the university sector where the use of communications technology offers an attractive solution to the problem of catering for large classes.

Learning materials developed to support these types of programs are characterised by their completeness. The model student for which the material is prepared is the remote, isolated student and as a result the course materials attempt to provide for every requirement.

The major producers of vocational learning materials are the various distance education institutions and hence most readily available learning materials are of this type.

The capital investment implications for these programs tend to focus on the technology. Providing the communication links is seen as the priority. Less investment is required for staff development as the lecturer's role is essentially unchanged. For similar reasons there is not a great requirement for marketing the idea to students. The reservoir of learning materials available from distance education has allowed some schemes to be established quickly and cheaply.

Change the classroom

The second school places the emphasis on changing the activities in the classroom. This group seeks to improve the effectiveness of its delivery by shifting the emphasis from a teacher-centred delivery process to a student-centred learning process. This represents a significant shift in the roles of both the lecturer and the student. The major change is to shift the information giving component from the lecturer to materials that can be accessed by the student at a time and place convenient to the student. The lecturer becomes a facilitator with the tasks of monitoring, encouraging, guiding and helping the individual student. Subject content experts make their contribution in two ways, either by their input to the design of the learning materials or as a resource from whom the student can seek advice as required. Tea Tree Gully College in South Australia and the Joondalup Campus of North Metropolitan College in Western Australia are two examples of this philosophy. This philosophy is more common in the vocational education sector where its flexibility promises a more effective response to industry's requirements.

Learning materials developed to support this philosophy are less comprehensive than would be used for distance education. The student is expected and encouraged to use a range of resources either on campus, from the local community or at the workplace. As much emphasis is placed on learning how to learn as is placed on the content.

The implications for capital investment for this type of learning are significant. There are reductions in the requirement for practice equipment but this is more than matched by the demand for computer equipment to manage the individual learning programs. Staff development and marketing require significant investment to assist staff and students to adjust their roles and expectations. Curricula structured around set blocks of content also need review.

Convergence

The increasing sophistication of information technology and the constant desire to provide a better service is causing a convergence of the two schools of thought. The resultant model may well provide the most significant advance in vocational educational delivery yet seen. This model would combine the flexibility of student-centred learning materials with the communications technology to permit the student the choice of content, medium, time and place in their study.

Such a model challenges the current structure that invests capital in vocational education in the form of buildings and institutions. Such a model also challenges the existing structures of accreditation and educational control exercised by the States and vocational education institutions. As will be seen in the following sections the technology to establish such a model already exists. The effectiveness of such a model in meeting precise training requirements and avoiding the costs associated with over or under-training would be attractive to industry.

Technology

> *'The new electronic independence recreates the world in the image of a global village'* – Marshall McLuhan

The future impact of technology, especially information technology, on the delivery of vocational education is difficult to overestimate. Although the use of the technology in vocational education has not been rapid so far, it is poised to take off. The technology is particularly supportive of alternative delivery strategies both as a management tool and as an instructional medium. A brief description of the part played by technology in some of the aspects of alternative delivery, follows.

Communications

As already indicated, communications technology plays an important part in the development of distance education. At present it is largely institution-based but this is likely to change.

Communications technology already permits live images to be received in the home. It is close to permitting the transmission of live images from the home. There already exists the means to transmit voice (telephone), pictures (facsimile) and electronic data (modem). The current obstacles of live image generation and cable capacity have solutions available in the form of home video cameras and optic fibre cable. Missing at the moment are the connections and capital to build it into a system.

Learning programs

Computer driven learning programs are reaching ever greater levels of sophistication. Technology such as the CD-ROM means that information that was previously restricted to select locations can now be widely disseminated. Interactive multi-media programs can confront a student with realistic scenarios demanding decisions that will challenge their ethics and values.

Student control

Accompanying the more sophisticated presentations of learning programs is an increasing measure of control of the process for the student. Even the most basic computer learning programs permit the student to move backwards and forwards through the material at will.

Student management

Computer driven management tools have been the major facilitator of the development of individualised learning programs. The 'data-base' in particular, provides the mechanism for the detailed individual recording that is necessary as well as the development of the item banks which permit the flexible assessment procedures that are required. It has been the lack of such technology up until now that has prevented the development of viable alternatives to the traditional classroom delivery.

Information technology impacts on capital investment in two ways. At the strategic level the use of technology permits alternative solutions to the

provision of vocational education. Within the existing system it creates a demand for both equipment and staff development.

Architecture

'We shape our buildings; thereafter they shape us'– Winston Churchill

Planning

As has been described previously, 'new' buildings play a major part in TAFE's strategic planning processes. This domination of the planning process by buildings extends into the project planning phase. Building authorities automatically use sophisticated project planning techniques to manage their building projects. In the absence of a comprehensive plan incorporating all the other aspects, the building plan and timetables dominate the process. Issues such as curriculum, staff development, learning materials etc. become reactive to the building and finance schedule. This often prevents the timely consideration of these issues to the detriment of the overall result.

Flexibility

The time taken to plan and construct a major building is usually counted in years. Where the project is funded by the Commonwealth, changes to State priorities and cash-flow considerations often cause this time to be extended. The building itself can be vulnerable to weather and the industrial climate.

A building cycle that is measured in years has considerable difficulty in adapting to the volatile nature of government plans and college course profiles. Planners in all States acknowledge the difficulties presented by changes in requirements during the building phase and have responded by requiring greater flexibility in new buildings.

The way in which flexibility can be provided varies considerably. The following are three particular examples of how the required flexibility could be achieved:

- At Fyshwick college in the ACT, the solution was to construct a large external shell to provide shelt er and security. Services are available in a grid pattern across the ceiling. This leaves a large,

sheltered floor space which is divided up as required using non-load-bearing walls.

- At Tea Tree Gully in South Australia, the solution was to build a college with an attractive conventional external layout and to make all inter nal walls moveable. Again services were provided in a pattern throughout the ceiling to allow not only re-arrangement of walls but also of equipment within rooms.

- The planning team for the new Port Adelaide College has opted for a building designed around a series of modular areas. Each of these modules is approximately 2-3 classrooms in size and services are provided to a perimeter point. The modules can be used independently of the rest of the college and arranged and equipped internally for any particular purpose.

Internal layout

Alternative delivery methodologies require a range of activities to take place in the learning area. This is in direct contrast to the traditional classroom and has an impact on the furniture and layout. The typical students' desks are rarely suitable for the type of tasks the student might undertake and the range of equipment used. In addition to furniture requirements the range of concurrent activities must be provided for. This requires a far from conventional layout which can provide quite secluded areas for individuals and space for small group work in the same area. Tea Tree Gully College is currently investigating how this might be best achieved.

Equipment

The equipment component of a new TAFE facility using non-traditional methodology needs careful consideration. There is a general opinion that alternative methodologies, especially those involving self-pacing, will require less equipment. While this is true in terms of student practice equipment, it overlooks the requirements of the technology used in the learning process.

Very few TAFE colleges are equipped with computers beyond those used in 'computer classrooms' and administration, yet the role of the computer in the learning management process is becoming increasingly important. At present limited availability of equipment

is *hindering the acceptance of the technology by staff.* As a matter of priority all new facilities should be planned and equipped to take advantage of this technology. This will require a considerable increase in the equipment fund allocation.

Curriculum

The existing curriculum is only an issue with some of the alternative delivery strategies. Where the approach is to extend the walls of the classroom, then the existing curriculum requires little change. If the alternative delivery looks to alter the existing teacher-student relationship, then the curriculum can become an important issue.

Course structure

Traditional course structures comprise groupings of subjects arranged over a number of years of study. Administrative constraints such as fixed enrolment and examination times, timetables etc. often affect the content of these subjects, to the extent that when such constraints are removed a revision of the curriculum is necessary.

Competency standards

Very few courses are expressed in competency terms yet the development of effective learning materials requires the statement of the exit behaviour in competency terms. Recognition of prior learning and other components of an individualised learning system also depend on a clear communication of the behaviours required.

Although it may appear to be more efficient to review the curriculum at the same time as the introduction of the different methodology, the degree of change involved requires a very large marketing effort. It may well be that the community will have difficulty in accepting this amount of change all at once. As a compromise it is suggested that in the initial stages, the restructuring takes place internally and that the exit behaviours remain unchanged. Restating these exit behaviours in competency terms can follow at a later date.

Staff development

'the only limit to our realisation of tomorrow will be our doubts of today'
– Franklin D Roosevelt

Introducing alternative delivery requires a major investment in staff development. The staff development needed tends to fall into three categories.

The first and largest component is the investment required to change the attitude of the staff who are going to operate the new system and to gain the acceptance by all the other staff whose interest is less direct. Innovative projects have a history of disappearing after a short time unless the whole system supports their implementation. Until the innovative process becomes the norm, there is continual pressure on staff to revert to the proven solutions of traditional methodology. A system-wide expectation that the alternative methodology will require different responses and procedures is expensive to create but essential to the success of the project.

Staff seconded to work on the development phase of the project will require a considerable amount of staff development. This can be minimised to some extent by careful selection of staff but it is sometimes difficult to anticipate the range of skills that will be needed.

Implementing alternative methodologies blurs the traditional role boundaries. In some cases it may significantly change them. Staff will need new skills to reflect their changed roles. All staff have an important part to play in assisting students and the community to adapt. This is especially important where the philosophy promotes a 'whole of campus' approach. To achieve this requires a considerable investment in staff development.

Finance

Ratios

The following is an attempt to provide some guidelines to the amount of investment that is required for each component.

In the case of a 'building' solution, a general guide is to relate the costs to the cost of the building. Equipment, course design, staff development, learning resources, marketing and planning costs can be expressed in terms of the cost of the building or as a percentage of the overall costs.

The following table is offered as a guide:

	% of building cost	$ example	% of project cost
building	100%	30 000 000	76%
equipment	15%	4 500 000	12%
course design	4%	1 200 000	3%
staff development	7%	2 100 000	5%
learning materials	4%	1 200 000	3%
planning/marketing (other than building)	1%	300 000	1%

Note that the building costs in this example include all associated costs such as site costs, architects fees.

These figures clearly indicate the dominant role that building construction plays in capital investment in TAFE and also the potential gain to TAFE of 'non-building' solutions.

Sources

In most new projects, the expectation of the Commonwealth and State governments is that the Commonwealth funding will be capital in nature and that the State will fund the recurrent costs. In time this has come to be interpreted as the Commonwealth funding the building and equipment while the state meets the other costs such as curriculum and staff development. The need for a major development of learning materials when introducing alternative methodologies introduces a new factor into this relationship. The development of learning materials has to take place prior to the start of operations and is clearly capital in nature, yet it replaces an activity

that was part of the recurrent costs. A review of the traditional funding relationships is necessary.

Co-ordination

Any effective project requires the co-ordination of all components, but with the introduction of an alternative methodology there is an especial need to co-ordinate the components of staff, building and curriculum. In order to progress its various agendas, the Commonwealth government allocates funding to each of these areas. Unfortunately the funds are allocated by different sections and procedures with little effort to co-ordinate the activities. Opportunities to increase the effectiveness and impact of this funding are reduced.

A mechanism exists which could be used to provide a greater degree of co-ordination. Currently each capital works project goes through a 'concept proposal' stage which is used to gain Commonwealth approval, set the broad parameters of the project and identify its place in the capital works cash-flow. Such a proposal usually contains initial sketches of the proposed building accompanied by demographic information to support the planned course profile. If the concept proposal were extended to include curriculum, learning material and staff development proposals, a greater degree of co-ordination could be achieved. Adopting this process would require a more comprehensive planning process on the part of the states.

Project management

Systematic planning is a key element in managing a project. This may seem simplistic but apart from the building/engineering aspects of the project, a systematic approach to co-ordinating the other components such as staffing, curriculum development, finance etc. was rarely seen. This does not mean that no planning occurred, but that it was informal and unpublished. One of the key requirements for the successful implementation of an innovative educational project is good communications between all the stakeholders. A written plan, co-ordinating all the various aspects is a major communication tool.

There are available several software packages that will assist with this task and their use is strongly recommended. They present three major advantages:

- Completion of the details required by the packages requires decisions on the sequencing of events. An examination of the interdependencies of the various activities increases the understanding of the scope of the project.

- Most packages present the final plan in a simplified form which is invaluable for marketing the project and communicating the plan to all involved.

- Progress can be monitored in a systematic manner and resources allocated as necessary.

As a guide to the development of a plan, the following are some of the items that appeared to be significant in the management of the projects visited. The list is neither exhaustive nor prescriptive, but intended simply as a guide to help those involved in managing a complex project.

- Staffing, including recruitment and training.

- Curriculum, including college profile and course design.

- Building, including equipment and internal layout.

- Finance, both capital and recurrent cash flows.

- Marketing.

- Learning materials.

- Operations procedures, including student enrolment, induction, records and management etc.

Part 5: Conclusion

The implementation of alternative delivery methodologies could be made more effective by a better co-ordinated application of capital investment. The present systems have been established to respond to the requirements of the traditional methodology and their response to the extraordinary is erratic and inefficient. The increased effectiveness could be achieved with only a small increase in funding coupled with a more balanced and timely use of the existing amounts. The major obstacle lies in the well established nature of the existing procedures. These procedures are highly efficient but of questionable effectiveness.

To a large degree, in most State TAFE organisations buildings dominate their capital investment program. In all States visited the only long term planning evidence available was the planned building schedule. Building planning has out paced the strategic planning process to the extent that the latter is reduced to determining what courses will be offered in a given building. Alternative (non-building) ways of providing TAFE services to the community are rarely considered. There is a need to establish planning procedures that will lead to a more effective use of capital expenditure.

At the project level the concept proposal with minor modification could be used as a means of initially co-ordinating the various aspects requiring capital investment. Present State-Commonwealth attitudes towards funding responsibilities need review.

Within TAFE the acceptance rate for information technology is low. This is a combination of limited equipment and scarce staff development. This technology has the capacity to revolutionise the vocational education industry to the extent that may make the existing structures obsolete.

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